WHAT IS A DESERT?

By J. CECIL ALTER, Observer, Salt Lake City, Utah.

The general idea of what a desert is has undergone a great change in the comparatively recent past, due largely to man's increasing acquaintance with the means of utilizing the arid regions.

It is within the memory of many men when the western portions of the Dakotas, Nebraska, Kansas, and Oklahoma presented to the inexperienced settler such meager agricultural possibilities as to have received the title "desert plains."

The climate of this region has not changed one way more than another since then, but the region generally is now fenced, with farm against farm; and where once only the foxes had holes for weather protection, there are now seen occasional rectangular forests and miles of trees in rows sheltering prosperous homes, which are surrounded by broad fields of grain.

Time was, and that quite recently, when, through lack of familiarity with arid farming methods and of a knowledge of the amount of precipitation, the population of the Great Basin States saw the "desert" begin where the last stream of irrigation water was absorbed.

To-day we find the so-called arid farmer in practically every valley within team-travel distance from centers of supplies.

Just two forces have contributed to make these grain fields possible in the untried "desert" regions beyond the natural limits of the irrigation systems:

First, the general tendency of the irrigator to conserve his water by every possible means; to grow a crop with the least possible water (because it is expensive); and, second, as he determined the gradually lessening amounts of water that would mature his crops under varying improved methods of irrigation, the U. S. Weather Bureau, by scattering rain gages and securing accurate precipitation data, showed him just where to make his inroads on the "desert."

Even in places so desolate that rainfall observers can not be obtained the "desert" has "given itself away" by the production of heavy growths of sage brush, which, when compared with the vegetation growths where precipitation records are available, reveal its possibilities.

It is true that irrigation has taken many miles from the maps of so-called deserts, but these are probably no more than one-tenth of the area that now appears to be susceptible of reclamation by other methods.

The term, desert, ages ago, was applied quite widely to "any wild, uninhabited region, including forest lands."

A later, but still old, definition of desert is "a place unfitted to be the site of great commercial and industrial communities."

Other conceptions of what constitutes a desert are "an uninhabited, and uncultivated tract of country;" "uninhabited, unpeopled, desolate, lonely;" "uncultivated and unproductive, barren, waste;" "a desolate, barren region, waterless and treeless, and with but scanty growth of herbage;" "most of the valleys of the Great Basin are utter deserts."

Since the going of the U. S. Weather Bureau into the "barren and waste places" with rain gages, we find this definition in a new encyclopedia: "The line of 10 inches annual rainfall may be taken as roughly bounding the outer limit of desert conditions, and the 5-inch line as the marg n of the desert."

But even this definition needs modification and is open to many objections, for "desert conditions" will admit of growing profitable crops of wheat by proper conservation of moisture, as has been demonstrated. Moreover, there are instances throughout the entire arid west of the reclamation of land, by irrigation, that receives less annual precipitation than so-called purely desert regions, that is, less than 5 inches of rainfall annually.

For instance: In the Grand Valley, Colorado, around Grand Junction, the famous fruit district, the average annual precipitation is 8.30 inches, considerably less than the limit of "desert conditions." To the west, in the Green River fruit district in Utah, with average annual precipitation of only about 5.40 inches, and occasional years with but little more than 3 inches, the irrigator has made the land worth thousands of dollars an acre, and that in a region very scantily covered, naturally, with even sage brush.

Another new district that is yielding large sums per acre every year in fruit and vegetables as a result of irrigation is Moapa, Nev., which, according to a liberal interpolation from surrounding stations, certainly receives less than 5 inches of precipitation annually, and in dry seasons may be expected to pass an entire year with less than a single inch of rainfall.

Irrigation and education does it.

In all definitions of the dreaded desert, generally, there appears a sense of abandonment, or hopelessness, and as such, the true desert must practically disappear from the United States, receding to Death Valley, Cal., and not appearing again this side of the Old World. It is being more properly recognized that the true desert is a place of drifting sand, not held by vegetation, but driven by fiercely hot winds, above which clouds are rarely seen, and from which it is a difficult journey to permanent water supplies.

As men slowly work their way over the American plains, guiding their irrigation streams through the sage brush, imprisoning moisture in the soil in ingenious ways, and scattering homes along the ever receding horizon, "the wilderness and the solitary place shall be glad for them; and the desert shall rejoice, and blossom as the rose."